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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,010	01/21/2002	Barry Gelernt	06161USA	5486

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AIR PRODUCTS AND CHEMICALS, INC.
PATENT DEPARTMENT
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EXAMINER

FASTOVSKY, LEONID M

ART UNIT PAPER NUMBER

3742

DATE MAILED: 09/11/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,010

Applicant(s)

GELERNT ET AL.

Examiner

Leonid M Fastovsky

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 10-11, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stauffer (5,698,037) in view of Ebbing et al (5,537,508), and DiBello (2003/0093917).

Stauffer discloses substantially the claimed features including a source container 12 containing a chemical in liquid form, a pump 13 to transport the liquid to a vaporizer and having a flow rate controller 27, a chemical delivery module 11 having a flow controller 22, but does not show a rate of mass flow, a carrier gas container with a carrier gas, a particulate filter, and an inductive heater. Ebbing shows the rate of mass flow up to 1000 cubic centimeters per minute (Col. 11, lines 43-46), and DiBello shows a carrier gas container 10 containing a carrier gas (Col. 2, [0017]). It would have been obvious to one having ordinary skill in the art to adapt a modified invention of Stauffer to include a carrier gas container with carrier gas as taught by DiBello and a mass flow rate as taught by Ebbing to provide flow of the carrier gas at the rate such that the liquid phase source material is vaporized and then entrained in the carrier gas and carried out of the vaporizer, and to include a particulate filter and an inductive heater as obvious matter of

design choice, since the applicant has not disclosed that the two items solve any stated problem or are for any particular reason.

3. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stauffer, Ebbing, and DiBello as applied to claim 1 above, and further in view of Nagashima et al (6,507,698), Bran (5,556,479).

Stauffer, Ebbing and DiBello disclose substantially the claimed features, but do not disclose a quartz vaporization chamber and quartz lamps with mirrors. Nagashima et al shows an evaporation chamber 131, and Bran shows quartz lamps 54 with mirrors. It would have been obvious to one having ordinary skill in the art to adapt a modified invention of Stauffer, Ebbing and DiBello to use a quartz evaporation chamber as taught by Nagashima and quartz lamps with mirrors as taught by Bran to provide sufficient heat for the flow controller.

4. Claims 9 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stauffer, Ebbing and DiBello as applied to claim 1 above, and further in view of Somekh et al (6,258,1700 and Hinkle et al (5,966,499).

Satauffer, Ebbing and DiBello disclose substantially the claimed features, but do not disclose a temperature range of a heat source and a flow range of a liquid chemical. Somekh shows a temperature range of 200-300 degree C (Col. 2, lines 53-56), and Hinkle et al shows a liquid flow range of 0.8 grams per minute (Col. 10, lines 11-15). It would have been obvious to one having ordinary skill in the art to adapt a modified invention of Stauffer, Ebbing and DiBello to use a temperature range as taught by

Somekh and a flow range as taught by Hinkle to maintain sufficient heat on evaporative surface of the evaporation module.

5. Claim 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stauffer, Ebbing and DiBello as applied to claim 1 above, and further in view of O'Neal et al (4,191,512).

Stauffer, Ebbing and DiBello disclose substantially the claimed features including a control module 17, but do not disclose a thermal sensor. O'Neal shows a thermal sensor 74. It would have been obvious to one having ordinary skill in the art to adapt a modified invention of Stauffer, Ebbing and DiBello with a thermal sensor as taught by O'Neal to sense a temperature of the evaporative surface and maintain it at a constant temperature.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stauffer and DiBello as applied to claim 1 above, and further in view of Woodgate (4,321,031). Stauffer and DiBello disclose substantially the claimed feature, but do not disclose a latent heat of a liquid source. Woodgate disclose a liquid material having a latent heat (Abstract). It would have been obvious to one having ordinary skill in the art to adopt a modified invention of Stauffer and DiBello to with a liquid material having a latent heat as taught by Woodgate to cool the evaporative surface.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 703-306-5482. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sang Paik can be reached on 703-308-1147. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

Leonid M Fastovsky
Examiner
Art Unit 3742

Imf

SANG Y. PAIK
PRIMARY EXAMINER

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